

U.S. DEPARTMENT OF COMMERCE  
PATENT AND TRADEMARK OFFICE

**INFORMATION DISCLOSURE  
STATEMENT**

Application Number  
**10/723,953**

Filing Date  
**November 26, 2003**

Docket Number  
**10020/30301**

Examiner  
**Not Yet Assigned**

Art Unit  
**1772**

Invention Title  
**MULTILAYER ORGANIC  
PHOTODETECTORS WITH IMPROVED  
PERFORMANCE**

Inventor(s)  
**FORREST et al.**

Address to:  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on

Date: 3/12/04

Signature:

Thomas F. Meagher (Reg. No. 29,831)

1. In accordance with the duty of disclosure under 37 C.F.R. § 1.56 and in conformance with the procedures of 37 C.F.R. §§ 1.97 and 1.98 and M.P.E.P. § 609, attorneys for Applicants hereby bring the following references to the attention of the Examiner. The references are listed on the attached modified PTO Form No. 1449. It is respectfully requested that the information be expressly considered during the prosecution of this application, and that the references be made of record therein and appear among the "References Cited" on any patent to issue therefrom.
2. A copy of each patent, publication or other information listed on the modified PTO form 1449 is enclosed, unless otherwise indicated.
3. It is believed that no fees are due in connection with this Information Disclosure Statement. However, should any fees be due, the Commissioner is authorized to charge Deposit Account No. 11-0600 for such fees. A duplicate copy of this communication is enclosed for charging purposes.

Dated: 3/12/04

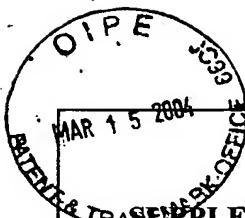
By:

  
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**SUPPLEMENTAL INFORMATION  
DISCLOSURE STATEMENT  
BY APPLICANT  
PTO-1449**

DOCKET NO.  
10020/30301

SERIAL NO.  
10/723,953

APPLICANT  
FORREST, et al.

FILING DATE  
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GROUP  
1772

**U. S. PATENT DOCUMENTS**

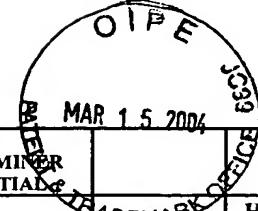
EXAMINER INITIAL	PATENT NUMBER	PATENT DATE	NAME	CLASS	SUBCLASS	FILING DATE
	6,013,982	January 11, 2000	Thompson et al.			
	6,087,196	July 11, 2000	Sturm et al.			
	6,097,147	August 1, 2000	Baldo et al.			
	6,294,398	September 25, 2001	Kim et al.			
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	6,468,819	October 22, 2002	Kim et al.			
	6,580,027	June 17, 2003	Forrest et al.			

**FOREIGN PATENT DOCUMENTS**

EXAMINER INITIAL	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	
						YES	NO

**OTHER DOCUMENTS**

EXAMINER INITIAL	AUTHOR, TITLE, DATE, PERTINENT PAGES, ETC.
	FORREST et al., "Active Optoelectronics Using Thin-Film Organic Semiconductors," IEEE J. Sel. Top. Quantum Electron. 6, 1072 (2000)
	PEUMANS et al., "Efficient Photon Harvesting at High Optical Intensities in Ultrathin Organic Double-Heterostructure Photovoltaic Diodes," Appl. Phys. Lett. 76, 3855 (2000)
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	SHAH et al., "Photovoltaic Technology: The Case for Thin-Film Solar Cells," Science 285, 692 (1999)
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	PEUMANS et al., "Efficient, High-Bandwidth Organic Multilayer Photodetectors," Appl. Phys. Lett. 76, 2650-52
	WELFORD et al., "High Collection Nonimaging Optics", Academic Press, pp. 172-175 (1989)
	PARKER, "Carrier Tunneling and Device Characteristics in Polymer Light-Emitting Diodes," J. Appl. Phys. 75, 1656 (1994)
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EXAMINER INITIALED	TRADEMARK OFFICE	AUTHOR, TITLE, DATE, PERTINENT PAGES, ETC.
		HILL et al., "Organic Semiconductor Heterointerfaces Containing Bathocuproine," <i>J. Appl. Phys.</i> 86, 2116 (1999)
		FORREST, "Ultrathin Organic Films Grown by Organic Molecular Beam Deposition and Related Techniques," <i>Chem. Rev.</i> 97, 1793 (1997)
		HILL et al., "Organic Semiconductor Interfaces: Electronic Structure and Transport Properties," <i>Appl. Surf. Sci.</i> 166, 354 (2000)
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		UENO et al., "Parabolic Dispersion and Effective Mass of Hot Electrons in Oriented Thin Films of Copper Phthalocyanine Determined by Means of Low-Energy-Electron Transmission," <i>Phys. Rev. B</i> 44, 6472 (1991)
		GU et al., "Transparent Organic Light Emitting Devices," <i>Appl. Phys. Lett.</i> 68, 2606 (1996)
		GU et al., "Transparent Stacked Organic Light Emitting Devices. I. Design Principles and Transparent Compound Electrodes," <i>J. Appl. Phys.</i> 86, 4067 (1999)
		DRECHSEL et al., "Organic Bipolar-diodes by p-doping of amorphous wide-gap semiconductors: CV and impedance spectroscopy", <i>Synth. Met.</i> 127, 201-205 (2002)
		SHIROTA et al., "Multilayered Organic Electroluminescent device Using a Novel Starburst Molecule, 4,4',4"-tris(3-methylphenylphenylamino)triphenylamine, as a hole transport material," <i>Appl. Phys. Lett.</i> 65, 807 (1994)
		DJURISIC et al., "Indium-tin-oxide Surface Treatments: Influence on the performance of CuPc/C <sub>60</sub> solar cells," <i>J. Appl. Phys.</i> 93, 5472 (2003)
		Shtein, et al., U.S. Patent Application No. 10/233,470, filed September 4, 2002, entitled "Process and Apparatus for Organic Vapor Jet Deposition".

EXAMINER	DATE CONSIDERED
<b>EXAMINER:</b> Initial if citation considered, whether or not citation is in conformance with M.P.E.P. 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	